

Position Paper

no tags

Offline applications for disconnected devices

- Jan Lindquist jan.lindquist@ericsson.com
Niklas Widell niklas.widell@ericsson.com
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Abstract

This position paper describes a use case when deploying applications that may work completely disconnected from the internet but the same distributor of application may work connected for an enhanced user experience. The transition of the application between disconnected and connected modes creates for some general development issues which are highlighted in this position paper.

Introduction

This position paper covers a number of areas for supporting offline applications.

Area 1: Do not use term offline

The term offline may easily be misunderstood with the event when there is a temporarily network disturbance which creates a temporarily failures and detection of an offline mode. In order to distinguish the two this position paper presents a new term in order to distinguish itself from offline mode. There are two operational modes for an application, connected and disconnected operational modes. The transition between the two is very dependent on the expected user experience. The recommendation is that it is a distinct transition in order for the application to based its service on locally stored data and network based data.

Area 2: Accessing Data through webstorage

The access of data by an application for example using webStorage creates an interesting problem for applications. It may be the case that there are two different types of applications, one for a connected operation mode and one disconnected mode. The difference is that the application running in a connected mode can be completely loaded from the network and requires no locally stored application. The disconnected mode application requires to be stored locally in the client for example using the widget framework. So if the client restarts it can load the widget without depending on the network. For developers that work with services that work in both modes it is desirable for the data to be accessed by both applications.

In order to fulfill this requirement of sharing data it is necessary to add the ability for webstorage to share the data. A simple enhancement to webstorage would address this requirement:

The widget's auther href element in the configuration xml file (i.e. config.xml) shall be set as the domain owner.

Area 3: Lifecycle of locally installed applications

The management of locally stored applications should be clear. The management should cover packaging, installation, execution and upgrades. Special consideration should be made for each area. For example in order to cover the security issues it is necessary to validate an installed package every time it is executed since it may have been tampered with between execution and if the certificates are modified then any application can be replaced.

A framework for managing widgets has been developed by Open IPTV Forum (OIPF) which may

serve as input for further discussions in the lifecycle of widgets [refer to section 7.2 in OIPF-DAE specification]

References

Solution Specification Volume 5- Declarative Application Environment V2.1

http://www.oipf.tv/live/oipf/docs/Release2/V2.1/OIPF-T1-R2-Specification-Volume-5-Declarative-Application-Environment-v2_1-2011-06-21.pdf